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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 11 1987

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: 87-CA-17. Proposed Section 18 Specific Exemption for
use of Benomyl on Parsley. No Accession #. RCB # 1987.

FROM: Leung Cheng, Chemist *L. Cheng*
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TO: Don Stubbs/Jim Tompkins, PM Team 41
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and
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THRU: Edward Zager, Section Head, SRS II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C) *E. Zager*

The California Department of Food and Agriculture (CDFA) is requesting a Section 18 exemption for use of benomyl [methyl 1-(butylcarbonyl)-2-benzimidazole carbamate] to control late blight on parsley. CDFA has requested a maximum of 3500 lbs Benlate® (1750 lbs ai) to treat 3500 acres of parsley grown in Monterey, Riverside, Santa Barbara, Santa Cruz, San Luis Obispo, and Ventura Counties. The emergency use is to last from April 1, 1987 until June 30, 1987.

Tolerances have been established for residues of benomyl and its metabolites containing the benzimidazole moiety in or on various vegetable crops including 3 ppm on celery, 0.2 ppm on spinach and 6 ppm on turnip greens [40CFR180.294].

The Residue/Product Chemistry chapters were issued 9/25/84 and updated 10/9/85.

Benlate® is to be applied by ground sprayer or aircraft at 1 lb (0.5 lb ai) per acre. Only one application is allowed per growing season. A preharvest interval (PHI) of 21 days is also proposed.

For the purpose of this Section 18 request, we consider the residue of concern in parsley to consist of the parent compound plus metabolites containing the benzimidazole moiety including methyl-2-benzimidazole carbamate (MBC).

Residue data from CA were submitted (see below). The residue method used was similar to Method I in PAM II. The method was validated at 0.05 ppm benomyl with recovery values of 92% and 98% in fresh parsley. In dried parsley, recovery values were 105% and 120% at 0.5 ppm benomyl, and 72% at 20 ppm benomyl. Untreated controls contained 0.019 and 0.027 ppm benomyl in fresh parsley, and 0.61 ppm and 0.088 ppm benomyl in dried parsley.

Samples of hand-cut parsley were also sent to "commercial dehydrator" and dried. Residues of benomyl on dried parsley were lower than those on fresh parsley. This may be due to the effects of hot air (150-250 °F)/belt drying process. A decrease of guthion residues on spinach upon similar processing was observed (see report # 4882 (h), Section D, PP314).

	<u>lbs ai/A</u>	<u>PHI (days)</u>	<u>PPM benomyl</u>
fresh	0.5	21	5.43, 5.43
parsley	0.5	14	24.9, 18.7
(leaves	0.5	7	15.3, 17.2
and stems)	0.5	0	19.9, 24.1, 23.7
	2 x 0.5	14	45.9
dried	0.5	21	1.3 (1.57)*,
parsley			3.67 (3.75)
	0.5	14	7.46 (6.43),
			14.5 (11.8)
	0.5	4	10.2, 10.2
	0.5	0	29.1, 35.2
	2 x 0.5	14	11.5, 14.5

* values in parenthesis are repeat runs

From the available residue data we conclude a level of 10 ppm will be adequate to cover residues of benomyl resulting from the proposed use on parsley.

Parsley is not a feed item. Thus we expect no transfer of secondary residues of benomyl to meat, milk, poultry and eggs.

CONCLUSIONS AND RECOMMENDATION

1. Residues of benomyl on fresh and dried parsley are not likely to exceed 10 ppm from this emergency use on parsley.

2. Method I in PAM II is available for enforcement. The standard is available from the Pesticides and Industrial Chemicals Repository.

3. Parsley is not a feed item. Consequently, there will be no problem with benomyl residues in meat, milk, poultry and eggs.

Toxicological considerations permitting, we do not object to the issuance of this Section 18 exemption. An agreement should be made with FDA regarding the legal status of the treated parsley in commerce.

cc:Circ, SF, RF, §18 F, Cheng, Reg Std F (Boodee), PMSD/ISB
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